LISTING OF CLAIMS

The current listing of the claims replaces all previous amendments and listings of the claims.

Claims 1-19 (Canceled)

Claim 20 (Currently Amended): A method of manufacturing a magnetoresistance effect element comprising:

forming an insulating layer on a first ferromagnetic layer;

forming an aperture reaching the first ferromagnetic layer by thrusting a needle from the top surface of the insulating layer; and

depositing a ferromagnetic material to form a second ferromagnetic layer overlying the insulating layer which buries the aperture,

wherein the aperture has an opening width not larger than 20nm.

Claim 21 (Currently Amended): A ~~The~~ method of manufacturing magnetoresistance effect element ~~according to Claim 1~~ comprising:

forming an insulating layer on a first ferromagnetic layer;

forming an aperture reaching the first ferromagnetic layer by thrusting a needle from the top surface of the insulating layer; and

depositing a ferromagnetic material to form a second ferromagnetic layer overlying the insulating layer which buries the aperture,

wherein a current flowing between the first ferromagnetic layer and the needle is monitored, and thrusting of the needle is interrupted when the current reaches a predetermined value.

Claim 22 (Withdrawn): A method of manufacturing a magnetoresistance effect element comprising:

limiting electrical conduction between upper and lower magnetic layers sandwiching an insulating layer substantially to a region irradiated by an irradiation with a converged flux of charge particles.

Claim 23 (Withdrawn): A method of manufacturing a magnetoristance effect element comprising:

etching an insulating layer by supplying a reaction gas onto a surface of the insulating layer and by irradiating the insulating layer with a converged electron beam to compose a volatile gas; and

burying the etched region with a magnetic layer which is one component of the magnetoresistance effect element.

Claim 24 (Withdrawn): A method of manufacturing a magnetoresistance effect element including:

a first ferromagnetic layer;

an insulating layer overlying the first ferromagnetic layer; and

a second ferromagnetic layer overlying the insulating layer, the insulating layer having an aperture, the first ferromagnetic layer and the second ferromagnetic layer being connected to each other via the aperture,

the method comprising:

changing a crystal arrangement of at least one of the first and second ferromagnetic layers by irradiating with an electron beam.

Claim 25 (New): The method of manufacturing magnetoresistance effect element according to Claim 20, wherein an electric resistance between the first ferromagnetic layer and the second ferromagnetic layer changes with a relative arrangement of magnetizations of the first and second ferromagnetic layers.

Claim 26 (New): The method of manufacturing magnetoresistance effect element according to Claim 21, wherein the aperture converges toward the first ferromagnetic layer, and the converged end of the aperture defines an opening width.

Claim 27 (New): The method of manufacturing magnetoresistance effect element according to Claim 21, wherein a plurality of apertures are formed.

Claim 28 (New): The method of manufacturing magnetoresistance effect element according to Claim 20, wherein the insulating layer is a polymer, or an oxide, nitride or fluoride containing at least one element selected from the group consisting of aluminum (Al),

titanium (Ti), tantalum (Ta), cobalt (Co), nickel (Ni), silicon (Si), zirconium (Zr), hafnium (Hf) and iron (Fe).

Claim 29 (New): The method of manufacturing magnetoresistance effect element according to Claim 21, wherein the insulating layer is a polymer, or an oxide, nitride or fluoride containing at least one element selected from the group consisting of aluminum (Al), titanium (Ti), tantalum (Ta), cobalt (Co), nickel (Ni), silicon (Si), zirconium (Zr), hafnium (Hf) and iron (Fe).